

IN THE CLAIMS

Applicants have submitted a new complete claim set.

1. (Original) A method, comprising:
applying from an applicator, via pressurized gas, an initially fluent therapeutic material precursor to a tissue surface of a mammal; and
allowing the fluent material to harden to form a non-fluent therapeutic material on the tissue surface.
2. (Previously Presented) The method of claim 1, wherein the tissue surface is internally of a mammal.
3. (Previously Presented) The method of claim 1, wherein the fluent material is polymerizable.
4. (Previously Presented) The method of claim 3, comprising applying, to the fluent material, a second material able to chemically initiate polymerization of the fluent material.
5. (Previously Presented) The method of claim 1, comprising applying a predetermined volume of the fluent material to the tissue surface.
6. (Previously Presented) The method of claim 5, wherein the step of applying a predetermined volume of the fluent material defines a first cycle of a cyclical procedure, the method further comprising applying a predetermined volume of a second material to the tissue surface in a second cycle.
7. (Previously Presented) The method of claim 6, wherein the predetermined volume of the fluent material and the predetermined volume of the second material are essentially the same.
8. (Previously Presented) The method of claim 1, comprising applying the fluent material in a group of adjacent and overlapping patterns.

9. (Previously Presented) The method of claim 1, comprising spraying the fluent material onto the tissue surface.
10. (Previously Presented) The method of claim 9, wherein the step of spraying comprises delivering a bolus of fluid into a gas stream moving at a velocity sufficient to atomize the fluid to form a spray comprising the fluent material.
11. (Previously Presented) The method of claim 9, wherein the step of spraying comprises spraying the fluent material onto the tissue surface in a generally conical spray pattern.
12. (Previously Presented) The method of claim 1, comprising applying the fluent material to the tissue surface as a thin film.
13. (Previously Presented) The method of claim 1, comprising emitting the fluent material from an emission element located at a distal portion of the applicator having a proximal portion and a distal portion.
14. (Previously Presented) The method of claim 13, wherein the emission element comprises a nozzle.
15. (Previously Presented) The method of claim 1, wherein the applicator comprises a distal portion adapted for insertion into the mammal and a proximal portion adapted to remain outside the mammal, the method further comprising inserting the distal portion of the applicator into the mammal.
16. (Previously Presented) The method of claim 1, wherein the fluent material comprises a biologically active agent.
17. (Previously Presented) The method of claim 1, wherein the fluent material is biodegradable.

18. (Previously Presented) The method of claim 1, wherein the non-fluent material serves as one or more of a tissue adhesive, a barrier to prevent tissue adhesions, a protective tissue coating a local application of a biologically active species, and a method for controlled release of biologically active species to achieve systemic and local effects.

19. (Previously Presented) The method of claim 1, wherein the non-fluent material is an adherent tissue coating.

20. (Previously Presented) The method of claim 1, wherein the fluent material comprises one or more reactive groups selected from acrylates, diacrylates, oligoacrylates, methacrylates, dimethacrylates, oligomethacrylates, isocyanates, isothiocyanates and amines.

21. (Previously Presented) The method of claim 1, wherein the fluent material hardens due to reaction of one or more reactive groups selected from acrylates, diacrylates, oligoacrylates, methacrylates, dimethacrylates, oligomethacrylates, isocyanates, isothiocyanates and amines.

22. (Previously Presented) The method of claim 1, wherein the fluent material is in an amount effective to cover an entire portion of the tissue.

23. (Previously Presented) The method of claim 1, wherein the fluent material is in an amount effective to substantially fill a void in the tissue.

24. (Previously Presented) The method of claim 1, comprising inserting the applicator, percutaneously, into the body of a mammal.

25. (Previously Presented) The method of claim 1, comprising inserting the applicator via an incision into a mammal.

26. (Previously Presented) The method of claim 1, comprising inserting the applicator via a natural orifice into a mammal.

27. (Previously Presented) The method of claim 1, further comprising orienting the applicator with respect to the tissue surface with a gauge.
28. (Previously Presented) The method of claim 1, wherein the gas comprises CO₂.
29. (Previously Presented) An apparatus, comprising:
an applicator having a proximal end and a distal end, the distal end of the applicator having a fluent emission element constructed and arranged to emit a mixture of a gas and a pre-polymeric material from a source of pressurized gas and a source of pre-polymeric material.
30. (Previously Presented) The apparatus of claim 29, wherein the fluent emission element comprises a nozzle adapted to emit the pre-polymeric material and disperse it in a predetermined pattern.
31. (Previously Presented) The apparatus of claim 30, wherein the nozzle is adapted to emit the pre-polymeric material in a spray.
32. (Previously Presented) The apparatus of claim 29, wherein the apparatus comprises means, at the distal end of the applicator, for emitting a second material.
33. (Previously Presented) The apparatus of claim 32, wherein the fluent emission element and the means for emitting the second material are constructed and arranged to direct the pre-polymeric material and the second material in the same direction.
34. (Previously Presented) The apparatus of claim 32, wherein the means for emitting the second material is constructed and arranged to apply the second material to a surface in a pattern at least as large as a spray pattern of the fluent emission element.

35. (Previously Presented) The apparatus of claim 32, wherein the means for emitting the second material is constructed and arranged to apply the second material to a surface in a pattern substantially the same shape as that in which the pre-polymeric material is applied.

36. (Previously Presented) The apparatus of claim 32, further comprising control means for automatically operating the fluent emission element after the fluent emission element has emitted the pre-polymeric material.

37. (Previously Presented) The apparatus of claim 29, further comprising control means for automatically operating the fluent emission element.

38. (Previously Presented) The apparatus of claim 29, wherein the applicator comprises a grippable member at its proximal end and a shaft extending distally from the grippable member.

39. (Previously Presented) The apparatus of claim 38, wherein the shaft comprises conduits for transmission of at least the pre-polymeric material and the second material.

40. (Previously Presented) The apparatus of claim 38, wherein the grippable member comprises a reservoir of pre-polymeric material.

41. (Previously Presented) The apparatus of claim 40, wherein the grippable member comprises a pump mechanism for pumping pre-polymeric material from the reservoir to of the fluent emission element.

42. (Previously Presented) The apparatus of claim 38, further comprising control means exposed externally of the grippable member for operating the pump mechanism.

43. (Previously Presented) The apparatus of claim 29, wherein the applicator comprises a shaft extending to the distal end.

44. (Previously Presented) The apparatus of claim 43, wherein at least part of the shaft is non-rigid.

45. (Previously Presented) The apparatus of claim 29, further comprising means for emitting a predetermined volume of pre-polymeric material from the fluent emission element for each cycle of operation of the apparatus.

46. (Previously Presented) The apparatus of claim 29, wherein the emission element is constructed to apply the pre-polymeric material in the form of a coating on the tissue.

47. (Previously Presented) The apparatus of claim 29, wherein the distal end of the applicator is constructed and arranged to be inserted into the body of a mammal.

48. (Previously Presented) The apparatus of claim 29, further comprising a pump mechanism for effecting ejection of a predetermined volume of pre-polymeric material from the fluent emission element.

49. (Previously Presented) The apparatus of claim 48, wherein the pump mechanism includes a self-contained power source for operating the pump mechanism to cause emission of pre-polymeric material.

50. (Previously Presented) The apparatus of claim 29, further comprising a second emission element at the distal end of the applicator able to emit a second material from a source of a second material.